Top Secret



INTELLIGENCE

Industrial Facilities (Non-Military)

Basic Imagery Interpretation Report

Selected Iron and Steel Plants

China

25X1

Top Secret

RCS 13/0010/73

DATE DECEMBER 1972
COPY

PAGES44



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CENTRAL INTELLIGENCE AGENCY Directorate of Intelligence Imagery Analysis Service

ABSTRACT

This report presents initial basic studies on 12 major iron and steel plants in China. These plants will be included in future annual basic reporting on China's iron and steel production facilities. The cutoff date for information in this report is February 1972.

Ten of the plants -- at Ching-tao, Ho-fei (2 plants), Hsin-yu, Hsing-tai, Lien-yuan, Lin-fen, Liu-chou, Tung-hua, and Yen-chuang -- have been observed operating. The other two plants, at Pan-chiao and She-hsien, were either complete or nearing completion in February 1972, but had not yet been seen in operation. On the latest coverage, construction activity was observed at all of the plants except Ho-fei Iron and Steel Plant.

This report includes an annotated photograph, measurements of significant features, and a discussion of the status and activity for each of the plants studied.

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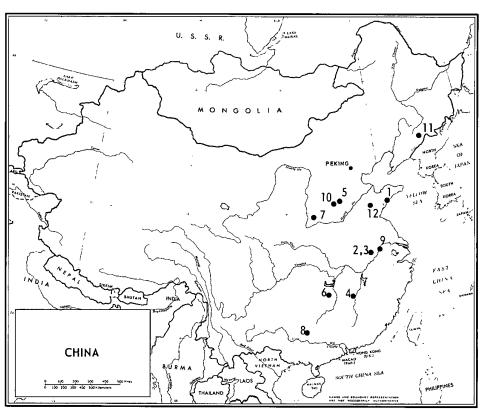


FIGURE 1. LOCATION MAP.

INTRODUCTION

The iron and steel plants included in this report are located in the eastern part of China (see Figure 1). Most of them are near iron and steel plants described in previous Basic Reports.

The length and width measurements in the key to annotations for each plant when multiplied do not always equal the corresponding square feet of roof cover given. The area of roof cover was determined by taking into account all protrusions, while the length and width measurements are for the main part of the structure.

The level of production activity is indicated as inactive (no visible signs of plant operation), low activity (up to 30 percent of the total plant facilities in operation), moderate activity (between 30 and 70 percent of the total plant facilities in operation), and high activity (from 70 to 100 percent of the total plant facilities in operation).

The approximate size of the blast furnaces was determined by comparative analysis. Blast furnaces are described as small (up to 150 tons per day), medium (200 - 700 tons per day), and large (700 - 1,300 tons per day).

- 1. Ching-tao Steel Plant No. 3.
- 2. Ho-fei Iron Plant.
- 3. Ho-fei Steel Plant.
- 4. Hsin-yu iron and Steel Plant.
- 5. Hsing-tai Iron and Steel Plant.
- 6. Lien-yuan Iron and Steel Plant.
- 7. Lin-fen Iron and Steel Plant.
- 8. Liu-chou Coke Iron and Steel Plant.
- 9. Pan-chiao Iron Plant.
- 10. She-hsien Iron and Steel Plant.
- 11. Tung-hua Iron Plant Tung-pien-tao.
- 12. Yen-chuang Iron Plant.

Requirement

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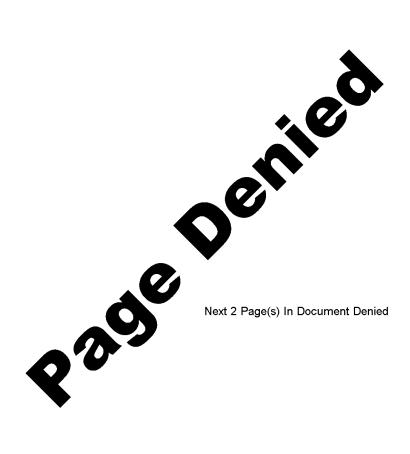
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Document References

CIA.	RCS-13/0066/72, Selected Iron and Steel Plants, China,	June 1972,	
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CIA.	(TOP SECRE)	June 1971,	25X1
CIA.	RCS-13/0047/70, Selected Iron and Steel Plants, China,	May 1970,	25X1
CIA.	RCS-13/0241/69, Selected Iron and Steel Plants, China,	June 1969,	25X125X1

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Key to Annotations (Figure 3)

Item No.	Description	Dimensions (ft)	Roof Cove (sq ft)	r <u>Remarks</u>
1	Coke By-products Section			Constructed between Jun 64 and Jul 71.
2	By-product Coke Oven Batteries (2)			One battery constructed between Jun 64 and Dec 70. Second battery constructed between Jun 64 and Jul 71.
3	Ore Handling Facility			
4	Blast Furnaces (2)			Small. Observed under construction in Feb 62. First observed operating in Jul 71.
5	Transformer Substation			Two transformers.
6	Water Treatment Facility			Complete by Dec 70.
7	Side-blown Converter Shop		44,850	Two converters and two cupola furnaces. One section built between Jun 64 and Sep 65. Expanded between Sep 65 and Dec 70.
8	Rail Line U/C			First observed under construction in Jul 71.
9	Possible Nitrogen Fertilizer Plant			Constructed between Jun 64 and Nov 71.



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Key to Annotations (Figure 4)

ltem No.	Description	Dimensions (ft)	Roof Cove	r Remarks	25X1
1	Workshop	Irregular		Built between Feb 62 and Sep 65.	20/(1
2	Workshop	Irregular		Built between Feb 62 and Sep 65.	
3	Rolling Mill	Irregular		Under construction in Feb 62. Complete by Nov 64.	
4	Rolling Mill	irregular		Built between Feb 62 and Nov 64.	
5	Possible Foundry			Complete by Jun 68.	25X1
6	Rolling Mill	Irregular		Built between Feb 62 and Sep 65.	
7	Steam Plant			Complete by Jun 68.	25X1
8	Forge/Foundry	Irregular		Built between Feb 62 and Nov 64.	
9	Unidentified Facility			Built between Feb 62 and Sep 65.	
. 10	Foundry	Irregular		Present in Feb 62.	
11	Blast Furnaces (3)			Small, old type. Partially dismantled. Never observed operat- ing.	-
12	Rail line U/C			Observed under construction in Jul 7	١.
13	Unidentified Building U/C			Under construction in Dec 70.	
14	Unidentified Building U/C			Under construction in Feb 71.	
15	Unidentified Building U/C			Under construction in Dec 70.	
16	Unidentified Building U/C			Under construction in Feb 71.	
17	Unidentified Building U/C			Under construction in Feb 71.	

TOP SECRET



INSTALLATION OR A	CTIVITY NAME		COUNTRY	
Hsin-yu Iron a	and Steel Plant		СН	
UTM COORDINATES	GEOGRAPHIC COORDINATES			25X1
NA	27-47-20N 114-55-00E			
MAP REFERENCE				-
	TC, <u>Series 200, Sheet M049</u> CRET	8-2HL, 3rd ed, Nov 69, Scale	1:200,000	_ 25X1
LATEST IMAGERY US	ED	NEGATION DATE (If required)		_
			•	`
		NA		_25X1

BASIC DESCRIPTION

Hsin-yu Iron and Steel Plant is located on the southwest edge of Hsin-yu. The plant is rail and road served. It occupies two separate irregular-shaped areas (Figure 5). A third area (Item 25) in an early stage of construction may be associated. No security measures have been observed. A small possible cement plant (Item 1) is under construction immediately northwest of the main plant area. It may use the slag waste from the blast furnaces as raw material for the production of cement for local usage.

The plant consists of two by-product coke oven batteries, a coke by-products section, an ore sintering plant under construction, four medium blast furnaces, one small blast furnace, a pig iron casting building, three probable forge shops, a probable machine shop, a probable heat treatment building, a probable fabrication building, railroad and ladle car repair shops, a transformer substation, a steam plant, a water treatment facility, and several unidentified buildings and areas in various stages of construction.

When the plant was first observed in March 1963, two medium blast furnaces were operating and a third was in an early stage of construction. By March 1964 the fourth medium blast furnace was under construction.

In August 1967 the third blast furnace and the pig iron casting building were operating. Two probable forge shops (Items 7 and 14) appeared externally complete. A third probable forge shop (Item 9) and the probable fabrication building were under construction.

In July 1968 the third probable forge shop (Item 9), the probable fabrication building, and the probable heat treatment building appeared externally complete. In September 1969 one by-product coke oven battery and the coke by-products section were under construction. In July 1970, the by-product coke oven battery and an addition to a probable forge shop (Item 14) were complete, and the small blast furnace, the steam plant, and the water treatment facility were under construction.

By July 1971 the fourth medium blast furnace, the small blast furnace, the steam plant, the water treatment facility, and the coke by-products section were complete. The sintering plant, the second by-products coke oven battery, and three unidentified buildings (Items 6, 20, and 21) and an unidentified area (Item 19) were under construction.

By January 1972, the second coke oven battery was complete, footings were present for buildings in three areas of unidentified activity (Items 8, 16, and 25), the substation had been expanded, and construction was underway on a pipeline to the Hsin-yu Nitrogen Fertilizer Plant located at 27-46-30N 25X1 114-54-00E.

The plant was operating at least at a low level on all coverages from March 1963 through July 1971. In January 1972 the plant was operating at a moderate level. All five blast furnaces, the two coke oven batteries, the coke by-products section, and one probable forge shop were operating.

TOP SECRET

25.74

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Key to Annotations (Figure 5)

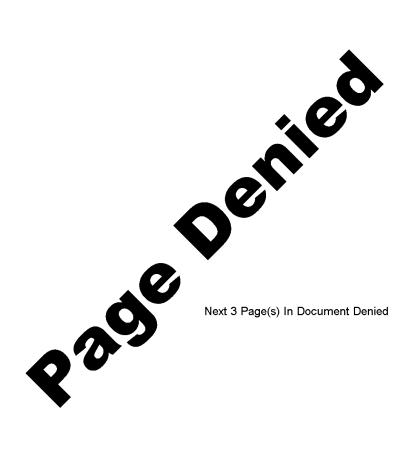
		(Tigule 3)			
ltem No.	<u>Description</u>	Dimensions (ft)	Roof Cove (sq ft)	r <u>Remarks</u>	
1	Possible Cement Plant U/C			One possible vertical kiln.	
2	Pig Iron Casting Building		6,200	Complete in Aug 67.	25X1
3	Blast Furnaces (4)			Medium. Two complete i Mar 63. Third complete in Aug 67. Fourth complete in Jul 71.	
4	Ore Sintering Plant U/C			Construction began prio to Jul 71.	r
5	Railroad and Ladle Car Repair Shops				
6	Unidentified Building U/C	Irregular		Construction began prior to Jul 71.	25X1
7	Probable Forge Shop	Irregular		Complete in Aug 67.	
8	Unidentified Construction	,		Construction first observed in Jan 72.	
9	Probable Forge Shop			Built between Sep 66 and Jul 68.	25X1
10	Probable Heat Treatment Building	Irregular		Built between Aug 67 and Jul 68.	
11	Probable Fabrication Buildin	ng	63,900	Built between Sep 66 and Jul 68.	25X1
12	Blast Furnace			Small. Built between Sep 69 and Jul 71.	
13	Transformer Substation			First observed in Aug 67. Expansion started between Jul 71 and Jan 72.	
14	Probable Forge Shop	irregular	21,570	A section complete in Aug 67. Addition completed by Jul 70.	
15	Probable Machine Shop	Irregular		A section present in Mar 64. Expansion complete by Sep 69.	25X1
16	Unidentified Construction			Construction started between Jul 71 and Jan 72.	
17	Coke by-products Section			Construction started between Jul 68 and Sep 69. Complete by Jul 71.	
18	Steam Plant			Built between Sep 69 and Jul 71.	
19	Unidentified Area U/C			Construction began prior to Jul 71.	

Key to Annotations (continued)

ltem No.	Description	Dimensions (ft)	Roof Cove (sg ft)	r Remarks	
20	Unidentified Building U/C		25,600	Construction began prior to Jul 71.	25X1
21	Unidentified Building U/C	Irregular	29,490	Construction began prior to Jul 71.	
22	Water Treatment Facility			Built between Sep 69 and Jul 71.	•
23	By-product Coke Oven Batteries (2)			Construction began between Jul 68 and Sep 69. One complete by Jul 70. Second complete by Jan 72.	
24	Pipeline, Pumphouse, and Storage Tank U/C			Construction began between Jul 71 and Jan 72.	
25	Unidentified Area U/C			Construction began between Jul 71 and Jan 72.	-05144
					25X1

25)

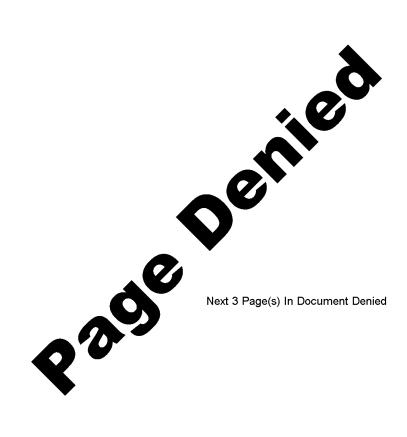
TOP SECRET



	2008/05/20 : CIA	-RDP79T009 TOP SE(09A000700010005	-4		2
ISTALLATION OR AC	CTIVITY NAME				COUNTRY	-
ien-vuan Iro	n and Steel Pla	n+			CH	
TM COORDINATES	GEOGRAPHIC COORD				1 0,,	2
NA AP REFERENCE	27-45-20N 111	-57-49E				
		, Sheet MO4	97-5HL, 2nd ed,	Nov 65, Scal	e 1:200,000	-
SI ATEST IMAGERY USE	ECRE1		NEGATION DATE (If re	equired)		_]2
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				NA		2:
		BASIC DE	SCRIPTION			
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Key to Annotations (Figure 7)

Item No.	<u>Description</u>	Dimensions (ft)	Roof Cove (sq ft)	r Remarks
1	Ore Sintering Plant U/C			Construction began between Sep 69 and Sep 71.
2	Blast Furnaces (2)			Medium. Present in Dec 64.
3	Blast Furnaces (2)			Small. Present in Dec 64.
4	Side-blown Converter Shop	Irregular	97,000	At least two converter furnaces. Present in Dec 64.
5	Rolling Mill	935 x 105	114,030	Present in Dec 64.
6	Coke By-Products Section U/C			Construction began between Sep 69 and Sep 71.
7	By-Product Coke Oven Battery U/C			Construction began between Sep 69 and Sep 71.
8	Unidentified Building U/C			Construction began between Sep 69 and Sep 71.
9	Transformer Substation			
10	Rolling Mill U/C (ab	Irregular out 1200' Ion	210,235 g)	Late stage of construction. Construction began between Sep 69 and Sep 71.
11	Rolling Mill	620 × 55	35,445	Constructed between Dec 64 and Nov 68. Expansion began between Sep 69 and Sep 71.
12	Rolling Mill	Irregular	71,235	Present in Dec 64.
13	Thermal Power Plant			Present in Dec 64.



INSTALLATION OR AC	TIVITY NAME	COUNTRY	
Liu-chou Coke	ron and Stee Plant GEOGRAPHIC COORDINATES		25X
NA MAP REFERENCE	24-23-08N 109 - 23-15I	<u>E</u>	
	TC, <u>Series 200. Sheet 1</u> CRET	M0497-22HL. 3rd ed. Mar 70. Scale 1:200.00	25X
LATEST IMAGERY USE	D	NEGATION DATE (If required)	
		NA	25X

BASIC DESCRIPTION

Liu-chou Coke Iron and Steel Plant is located 4.5 nm north-northwest of Liu-chou. The plant is rail and road served, and occupies an irregular-shaped area of approximately 5,500 by 4,000 feet (Figure 9). No security measures have been observed.

The plant contains four by-product coke oven batteries (two under construction), a coke by-products section under construction, two medium blast furnaces, a pig iron casting building, a basic oxygen furnace under construction, an air separation plant, a side-blown converter shop with three converters and one cupola furnace, two rolling mills, four forge/foundries, a probable firebrick plant, a probable coal processing facility, two unidentified buildings under construction, six abandoned beehive coke oven batteries, and numerous storage/ support buildings.

When the plant was first observed in September 1963, two blast furnaces, a side-blown converter shop, a rolling mill (Item 12), and the probable coal processing facility were being built. Six beehive coke oven batteries located at the plant appeared to be abandoned.

By November 1964 one blast furnace and the probable firebrick plant appeared complete. The side-blown converter shop contained one converter and one cupola furnace. In August 1966 footings for the second rolling mill (Item 11) were seen. By May 1967 a forge/foundry (Item 16) and a rail line into the north side of the converter shop had been constructed.

In September 1969 two by-product coke oven batteries (Item 5) were in an early stage of construction. By February 1971, the two batteries were operating, both rolling mills and the second blast furnace were complete, and the pig iron casting building and three rail lines into the north end of the converter shop were constructed. Also, a small addition to the converter shop had been constructed, and two converters had been added.

By January 1972, three additional forge/foundries (Items 13, 14, and 17) and the air separation plant were constructed. Two unidentified buildings (Items 15 and 18), the basic oxygen furnace, two additional by-product coke oven batteries (Item 3), and the coke by-products section were under construction. The probable coal processing facility was being expanded.

The plant was first observed operating in August 1966. On coverage between May 1967 and February 1971 the plant appeared to be either inactive or operating at a low level. In January 1972 a moderate level of activity was observed. One blast furnace, the pig iron casting building, two by-product coke oven batteries, one rolling mill, and the probable firebrick plant were operating.

Key to Annotations (Figure 9)

		(Figure 9)		
Item No.	Description	Dimensions (ft)	Roof Cove (sq ft)	r <u>Remarks</u>
1	Pig Iron Casting Building			Constructed between Sep 69 and Feb 71.
2	Blast Furnaces (2)			Medium. Under construction in Sep 63. One complete by Nov 64. Second one complete by Feb 71.
3	By-Product Coke Oven Batteries U/C (2)			First observed under construction in Jan 72.
4	Coke By-Products Section U/	0		First observed under construction in Jan 72.
5	By-Product Coke Oven Batteries (2)			Constructed between Sep 69 and Feb 71.
6	Beehive Coke Oven Batteries (6)			Abandoned when first observed in Sep 63.
7	Side-blown Converter Shop	Irregular		Under construction in Sep 63. Contained one converter and one cupola furnace in Nov 64. Two more converters added by Feb 71.
8	Probable Firebrick Plant	lrregular		Appeared complete in Nov 64.
9	Air Separation Plant			Constructed between Feb 71 and Jan 72.
10	Probable Coal Processing Facility			Under construction in Sep 63. First section complete in Nov 64. Expansion observed in Jan 72.
11	Rolling Mill	Irregular		Constructed between Aug 66 and Feb 71.
12	Rolling Mill	irregular	76,345	Under construction in Sep 63. Complete in Feb 71.
13	Forge/Foundry	Irregular		Constructed between Sep 69 and Jan 72.
14	Forge/Foundry	Irreguļar		Constructed between Sep 69 and Jan 72.
15	Unidentified Building U/C			First observed under construction in Jan 72.
16	Forge/Foundry	261 × 98		Constructed between Aug 66 and May 67.
17	Forge/Foundry	Irregular	40,915	Constructed between Sep 69 and Jan 72.
.18	Unidentified Building U/C	Irregular	109,330	First observed under construction in Jan 72.
19	Basic Oxygen Furnace U/C			First observed under construction in Jan 72.
		-28-		25X1
	ТОР	SECRET		25X1

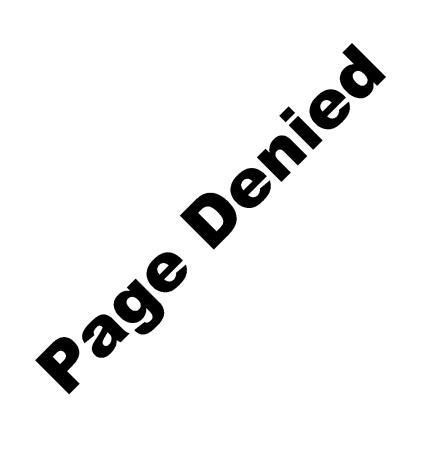


INSTALLATION OR ACT	FIVITY NAME		COL	UNTRY	
Pan-chiao Iron	Plant			СН	
UTM COORDINATES	GEOGRAPHIC COORDINATES		•		2
NA MAP REFERENCE	31-55-35N 118-36-	-15E			
		t M0493–4HL. 4th ed. Anr	68. Scale 1:20	00 000	25X1
SECR) ATEST IMAGERY USEI		NEGATION DATE (If requ	ired)		_ 25/1
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	BA	ASIC DESCRIPTION			
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Key to Annotations (Figure 10)

Item No.	<u>Description</u>		nsions ft)	Roof Cover	<u>Remarks</u>
1	Pig Iron Casting Building				Constructed between Dec 69 and Apr 71.
2	Blast Furnaces (2)				Medium. Constructed between Feb 69 and Feb 72.
3	Ore Sintering Plant				Constructed between Feb 69 and Feb 72.
4	By-product Coke Oven Batteries (2)				Construction began between Feb 69 and Dec 69. Probably complete in Feb 72.
5	Coke By-products Section U/C				Construction began between Dec 69 and Apr 71.
6	Workshop	265 x	105	27,825	Construction began between Dec 69 and Apr 71.
7	Workshop	355 ×	55	19,525	Construction began between Dec 69 and Apr 71.
8	Workshop	445 ×	70	31,150	Construction began between Dec 69 and Apr 71.
9	Workshop	200 ×	55	11,000	Constructed between Apr 71 and Feb 72.
10	Transformer Substation				Present in Apr 71.
11	Storage Buildings (3)	220 × 235 × 260 ×	65	30,800 15,275 16,900	Built between Dec 69 and Apr 71; additions built between Apr 71 and Feb 72.
12	Steam Plant U/C				Construction began between Dec 69 and Apr 71.

25X1



TALLATION OR ACTIVITY NAME Sension Iron and Steel Plant ICOORDINATES NA 36-35-50N 113-44-10E THERERNICE THERENICE THERENICE
COMIREX NO. NIETB NO. No
None None
BASIC DESCRIPTION She-hsien Iron and Steel Plant is located 4.2 nm northeast of She-hsien and 5 nm west of Han-tan. The plant is rail and road served (Figure 11). No curity measures have been observed. In June 1970 a rail line was under construction into the plant site, and December 1970 ground preparation and footings were observed for several of a plant facilities. In February 1972, a firebrick plant was complete and the lowing facilities were in various stages of construction: a probable one tering plant, two by-product coke oven batteries, a coke by-products section, medium blast furnaces, a pig iron casting building, several unidentified Idings, and a thermal power plant and the firebrick plant were observed operating February 1972. One blast furnace was at least nearing completion but its rational status could not be determined.
BASIC DESCRIPTION She-hsien Iron and Steel Plant is located 4.2 nm northeast of She-hsien and 5 nm west of Han-tan. The plant is rail and road served (Figure 11). No surity measures have been observed. In June 1970 a rail line was under construction into the plant site, and December 1970 ground preparation and footings were observed for several of splant facilities. In February 1972, a firebrick plant was complete and the lowing facilities were in various stages of construction: a probable ore tering plant, two by-product coke oven batteries, a coke by-products section, medium blast furnaces, a pig iron casting building, several unidentified Idings, and a thermal power plant. Only the thermal power plant and the firebrick plant were observed operating February 1972. One blast furnace was at least nearing completion but its rational status could not be determined.
BASIC DESCRIPTION She-hsien Iron and Steel Plant is located 4.2 nm northeast of She-hsien and 5 nm west of Han-tan. The plant is rail and road served (Figure 11). No curity measures have been observed. In June 1970 a rail line was under construction into the plant site, and December 1970 ground preparation and footings were observed for several of a plant facilities. In February 1972, a firebrick plant was complete and the lowing facilities were in various stages of construction: a probable ore tering plant, two by-product coke oven batteries, a coke by-products section, a medium blast furnaces, a pig iron casting building, several unidentified ldings, and a thermal power plant. Only the thermal power plant and the firebrick plant were observed operating February 1972. One blast furnace was at least nearing completion but its rational status could not be determined.
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25X

TOP SECRET

25X1

Key to Annotations (Figure 11)

ltem No.	Description	Dimensions (ft)	Roof Cover	<u>Remarks</u>
1	Firebrick Plant			Observed operating in Jan 72.
2	Probable Oré Sintering Plant U/C			
3	Coke By-products Section U/C			
4	By-product Coke Oven Batteries U/C (2)			
5	Pig Iron Casting Building U/C			Two conveyors.
6	Transformer Substation			Three transformers.
7	Thermal Power Plant U/C			Observed operating in Jan 72. South end of plant not complete.
8	Blast Furnaces U/C (2)			Medium.

Pade Denied

STALLATION OR ACTIVITY NAME COUNTRY		ase 2008/05/20 : (CIA-RDP79T00	0909A000700010005 •KEI	-4		25X1
Wing-hua Iron Plant Tung-plen-tac* The CORRENTATES GEOGRAPHIC CORRENTATES NA 41-46-22N 126-01-26E AP REFERENCE 15th RTS. USATC, Series 200, Sheet M0290-12HL, 5th ed, Oec 71, Scale 1:200,000 (SECRET) ATEST MAGERY USED REGATION DATE (If required) * The name of this plant should be Tung-hua Iron and Steel Plant Tung-plen-tac, as It contains a side-blown converter shop for steel production. Action has been initiated to heve the name changed in the Basic Encyclopedia. BASIC DESCRIPTION Tung-hua Iron and Steel Plant Tung-plen-tao is located on the west side of Frh-tao-chiang, approximately 4 nm northeast of Tung-hua. The plant is rail and road served, and occusies an Irregular-shaped area of approximately 5,000 by 3,100 feet (Floure 12). No security measures have been observed. The Tung-hua Informal Power Plant Ern-tao-chiang is located on the west side of the ferrous plant for the steel plant consisted of a coke by-product section, two by-product coke owen batteries, a sintering plant, two medium blast furnaces, a probable forge shop, a probable foundry, a rolling mill, a steen blant, a probable firebrick plant, five workshops, several unidentified buildings under construction, and numerous storage/support buildings. When the plant was first observed in August 1962 it was not operational. The coke by-products section, one by-product coke oven battery, and the two blast furnaces were in an early stage of construction. The side-blown converter shop with two converters and two cupola furnaces, the rolling mill, the probable firebrick plant, the steem plant, and four workshops (Items 8 and 17) appeared externally complete. By April 1970 a second by-product coke oven battery, the probable foundry (Item 13), a workshop (Item 15), a large storage building (Item 14), and an unidentified area (Item 3) were under construction. By February 1971, a section containing and a stack for an unidentified building, complete. By April 1970 a second by-product coke oven battery, the pig iron casting building, end the sinteri							
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AR 41-46-22N 126-01-28E None None None PREFERENCE FISTH RTS. USATC, Series 200, Sheet M0290-12HL, 5th ed, Dec 71, Scale 1:200,000 (SECRET) ATEST MAGERY USED NEGATION DATE (If required) NA 25X1 ** The name of this plant should be Tung-hua Iron and Steel Plant Tung-plen-tao, as it contains a side-blown converter shop for steel production. Action has been initiated to have the name changed in the Basic Encyclopedia. BASIC DESCRIPTION Tung-hua Iron and Steel Plant Tung-plen-tao is located on the west side of Erh-tao-chiang, approximately 4 nm portheast of Tung-hua. The plant is rail and road served, and occupies an irregular-shaped area of approximately 5,000 by 3,100 feet (Figure 12). No security measures have been observed. The Tung-hua Thermal Power Plant Erh-tao-chiang is located to the northwest. In February 1972 the plant consisted of a coke by-products section, two by-product coke own batheries, a sintering plant, two medium biast furnaces, a pig iron casting building, a side-blown converter shop with three converters and two cupola furnaces, a probable forge shop, a probable foundry, a rolling mill, a steem plant, a probable firebrick plant, five workshops, several unidentified buildings under construction, and numerous storage/support buildings. When the plant was first observed in August 1962 It was not operational. The coke by-products section, one by-product coke oven battery, and the two blast furnaces were in an early stage of construction. The side-blown converters shop with two converters and two cupola furnaces, the rolling mill, the probable forge shop (Irem 10) was built. By November 1963, the by-product coke oven battery and the blast furnaces were complete, and a second stack was added to the steam plant. By April 1970 a second by-product coke oven battery, the probable foundry (Irem 13), a large storage building (Irem 14), and an unidentified area (Irem 3) were under construction. Between April 1970 and February 1971, a section containing one converter was added to the side-blown c	ung-hua Iron	Plant Tung-pie	n-tao*		COMIR		25Y1
25X1 **The name of this plant should be Tung-hua Iron and Steel Plant Tung-pien-tac, as it contains a side-blown converter shop for steel production. Action has been initiated to have the name changed in the Basic Encyclopedia. **BASIC DESCRIPTION Tung-hua Iron and Steel Plant Tung-pien-tac, as it contains a side-blown converter shop for steel production. Action has been initiated to have the name changed in the Basic Encyclopedia. BASIC DESCRIPTION Tung-hua Iron and Steel Plant Tung-pien-tac is located on the west side of Ern-tac-chiang, approximately 4 nm northeast of Tung-hua. The plant is rail and road served, and occupies an irregular-shaped area of approximately 5,000 by 5,100 feet (Figure 12). No security measures have been observed. The Tung-hua hermal Power Plant Ern-tac-chiang is located to the northwest. In February 1972: the plant consisted of a coke by-products section, two by-product coke oven betterles, a sintering plant, two medium blast furnaces, a pig iron casting building, a side-blown convertor shop with three converters and two cupola furnaces, a probable forge shop, a probable foundry, a rotling mill, a steam plant, a probable firebrick plant, five workshops, several unidentified buildings under construction, and numerous storage/support buildings. When the plant was first observed in August 1962 it was not operational. The coke by-products section, one by-product coke oven battery, and the two blast furnaces were in an early stage of construction. The side-blown converters shop with two converters and two cupols furnaces, the rolling mill, the probable with the company of the steem plant, and four workshops (Items 8 and 17) appeared externally complete. In November 1965 the sintering plant was under construction. By February 1968 the probable forge shop (Item 10) was built. Sy November 1968, the by-product coke oven battery, the probable foundry (Item 13), a workshop (Item 15), a large storage building (Item 14), and an unidentified building and the sintering plant were completed.					"		23/1
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TESTIMAGERY USED **NA* **The name of this plant should be Tung-hua Iron and Steel Plant Tung-pien-tao, as it contains a side-blown converter shop for steel production. Action has been initiated to have the name changed in the Basic Encyclopedia. **BASIC DESCRIPTION** **Tung-hua Iron and Steel Plant Tung-pien-tao is located on the west side of initiated and cocuples an irregular-shaped area of approximately 5,000 by 5,100 feet (Figure 12). No security measures have been observed. The Tung-hua Iron and served, and occuples an irregular-shaped area of approximately 5,000 by 5,100 feet (Figure 12). No security measures have been observed. The Tung-hua Infernal Power Plant Erh-tao-chiang is located to the northwest. **In February 1972-the plant consisted of a coke by-products section, two by-product coke owen batteries, a sintering plant, two medium bilast furnaces, a sig inon casting building, a side-blown converter shop with three converters and two cupola furnaces, a probable forge shop, and the five blast furnaces were in an early stage of construction. The side-blown converters shop with two converters and two cupola furnaces, the rolling mill, the probable firebrick plant, five workshops (Items 8 and 17) appeared externally complete. **By April 1970 a second by-product coke oven battery, the probable forge shop (Item 15), a large storage building (Item 14), and an unidentified area (Item 3) were under construction. Between April 1970 and February 1971, a section containing one converter was added to the side-blown converter was added to the side-blown converter shop, two conveyors were added to the west end of the side-blown converter shop, two conveyors were added to the west end of the side-blown converter shop, twe conveyors were added to the west end of the side-blown converter shop, two conve			, Sheet M029	0-12HL, 5th ed, D	ec 71, Scal	e 1:200,000	25X1
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Tüng-hua Iron and Steel Plant Tung-pien-tao is located on the west side of Erh-tao-chiang, approximately 4 nm northeast of Tung-hua. The plant is rail and road served, and occupies an irregular-shaped area of approximately 5,000 by 5,100 feet (Figure 12). No security measures have been observed. The Tung-hua thermal Power Plant Erh-tao-chiang is located to the northwest. In February 1972 the plant consisted of a coke by-products section, two by-product coke oven batteries, a sintering plant, two medium blast furnaces, a probable forge shop, a probable formative and two cupola furnaces, a probable forge shop, a probable foundry, a rolling mill, a steem plant, a probable firebrick plant, five workshops, several unidentified abuildings under construction, and numerous storage/support buildings. When the plant was first observed in August 1962 It was not operational. The coke by-products section, one by-product coke oven battery, and the two blast furnaces were in an early stage of construction. The side-blown converter shop with two converters and two cupola furnaces, the rolling mill, the probable firebrick plant, the steem plant, and four workshops (Items 8 and 17) appeared externally complete. In November 1965 the sintering plant was under construction. By February 1968 the probable forge shop (Item 10) was built. By November 1968, the by-product coke oven battery, and a second stack was added to the steem plant. By April 1970 a second by-product coke oven battery, the probable foundry (Item 13), a workshop (Item 15), a large storage building (Item 14), and an unidentified area (Item 3) were under construction. Between April 1970 and February 1971, a section containing one converter was added to the side-blown converter shop, two conveyors were added to the west end of the sintering plant, and the conveyor system was built at the pig iron casting building, and the sintering plant were completed. The probable foundry (Item 13), a storage building (Item 14), and a workshop (Item 15) appeared externally comple	as it conta	ins a side-blow	n converter name change	shop for steel pr ed in the Basic En	oduction.	Action has	,
En-tao-chiang, approximately 4 nm northeast of Tung-hua. The plant is rail and road served, and occupies an irregular-shaped area of approximately 5,000 by 3,100 feet (Figure 12). No security measures have been observed. The Tung-hua thermal Power Plant Erh-tao-chiang is located to the northwest. In February 1972 the plant consisted of a coke by-products section, two by-product coke oven batteries, a sintering plant, two medium blast furnaces, a pig iron casting building, a side-blown converter shop with three converters and two cupola furnaces, a probable forge shop, a probable foundry, a rolling mill, a steam plant, a probable firebrick plant, five workshops, several unidentified buildings under construction, and numerous storage/support buildings. When the plant was first observed in August 1962 it was not operational. The coke by-products section, one by-product coke oven battery, and the two blast furnaces were in an early stage of construction. The side-blown converter shop with two converters and two cupola furnaces, the rolling mill, the probable firebrick plant, the steam plant, and four workshops (Item 8 and I7) appeared externally complete. In November 1965 the sintering plant was under construction. By February 1968 the probable forge shop (Item 10) was built. By November 1968, the by-product coke oven battery and the blast furnaces were complete, and a second stack was added to the steam plant. By April 1970 a second by-product coke oven battery, the probable foundry (Item 13), a workshop (Item 15), a large storage building (Item 14), and an unidentified area (Item 3) were under construction. Between April 1970 and February 1971, a section containing one converter was added to the side-blown converter shop, two conveyors were added to the west end of the sintering plant, and the conveyor system was built at the pig iron casting building, and the sintering plant were completed. The probable foundry (Item 15), a storage building (Item 14), and a workshop (Item 15) appeared externally complete. Fo		٠					
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-37- Z5X1	casting build (Item 13), a externally co were also obs	ling, and the s storage buildi omplete. Footi served under co	intering pla ng (Item 14) ngs and a st nstruction.	<pre>nt were completed , and a workshop ack for an uniden The only change</pre>	. The prob (Item 15) a tified buil by February	able foundry ppeared ding (!tem 12)	
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The plant has been observed operating on all coverages since November 1968. In February 1972 a high level of activity was observed. The following facilities were operating: two by-product coke oven batteries, the sintering plant, two blast furnaces, the side-blown converter shop, the probable forge shop, the rolling mill, the probable firebrick plant, and the steam plant.	
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Key to Annotations (Figure 12)

		(Figure 12)			
ltem No.	Description		Dimensions (ft)	-	Roof Cov	
1	Coke By-products Section					Under construction in Aug 62. Probably complete by Nov 68.
2	By-product Coke Oven Batteries (2)					One battery under construction in Aug 62. Complete in Nov 68. Second battery built between Apr 70 and Nov 71.
3	Unidentified Area U/C					First observed in Apr 70, construction progressing slowly when observed in Feb 72.
4	Pig Iron Casting Building					Built between Apr 70 25X1 and Nov 71.
5	Sintering Plant					Built between Nov 65 and Nov 71.
6	Blast Furnaces (2)					Medium. Under construction in Aug 62. Operating in Nov 68.
7	Steam Plant		125 × 80		10,000	Present in Aug 62. Second stack added between Feb and Nov 68.
8	Workshops (3)) Irregular) Irregular)			Present in Aug 62. 25X1
9	Side-blown Converter Shop					Two converters and two cupola furnaces present in Aug 62. Third converter added between Apr 70 and Feb 71.
10	Probable Forge Shop			_		Built between Nov 65 and Feb 68.
11	Rolling Mill		Irregular			Present in Aug 62.
12	Unidentified Building U/C					First observed under construction in Nov . 71.
13	Probable Foundry					Built between Apr 70 and Nov 71.
14	Storage Building					Built between Apr 70 and Nov 71.
15	Workshop					Built between Apr 70 and Nov 71.
. 16	Probable Firebrick Plant					Present in Aug 62.
17	Workshop					Present in Aug 62.



INSTALLATION OR AC	TIVITY NAME			COUNTRY	_
Yen-chuang Iro	n Plant			СН	
UTM COORDINATES	GEOGRAPHIC COORDIN	ATES		1 011	25X1
NA	36-03-42N 117-	49-13E			
MAP REFERENCE					
	TC, Series 200.	Sheet MO38	31-22HL. 4th ed. Jul 68. Sca	ie 1:200.000	25X1
LATEST IMAGERY USE	ID .		NEGATION DATE (If required)		
·			NA		2

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BASIC DESCRIPTION

Yen-chuang Iron Plant is located 1.7 nm east of Ching-ni-kou and about 26 nm south of Po-shan. The plant is rail and road served, and occupies three irregular-shaped areas connected by rail and road (Figure 13). No security measures have been observed. New road and rail spurs are being constructed which may connect the iron plant with an unidentified plant located approximately 2 nm north-northwest. This unidentified plant has been under construction since January 1968. A possible forge/foundry complex, which is located 1.3 nm west of the iron plant, has been under construction since December 1970. Both of these areas may be associated with the iron plant but this cannot be determined at present.

In January 1972 the plant consisted of the following completed facilities: an ore processing facility, a coal processing facility, four small blast furnaces, and two pig iron casting buildings. Other facilities in various stages of construction were two by-product coke oven batteries, a coke by-products section, a probable ore sintering plant, one medium blast furnace, a possible open-hearth furnace building, a steam plant, and a possible water treatment facility.

When the plant was first observed in October 1963, only the four small blast furnaces were under construction. By November 1966 a rail spur had been constructed to the area. The ore and coal processing facilities were under construction in January 1968.

In December 1970, the two pig iron casting buildings, the medium blast furnace, the probable sintering plant, and the steam plant were in an early stage of construction. By September 1971 the four small blast furnaces, the ore processing facility, and the coal processing facility appeared complete, and the coke by-products section was under construction.

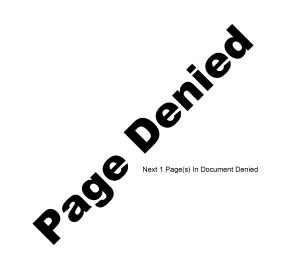
The plant was observed operating for the first time in January 1972. Smoke was coming from the four small blast furnaces, the ore processing facility, and an unidentified area (Item 6).

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Key to Annotations (Figure 13)

No.	<u>Description</u>	Dimensions (ft)	Roof Cove (sq ft)	r <u>Remarks</u>
1	Possible Open-hearth Furnace Building U/C			First observed under construction in Jan 72.
2	Possible Water Treatment Plant U/C	Irregular		First observed under construction in Dec 70.
3	Blast Furnace U/C			Medium. First observed under construction in Dec 70.
4	Steam Plant U/C		20,725	First observed under 25X1 construction in Dec 70.
5	Pig Iron Casting Building			Constructed between Dec 69 and Jan 72.
6	Unidentified Activity			
7	Probable Ore Sintering Plant U/C			First observed under construction in Dec 70.
8	By-product Coke Oven Batteries U/C (2)			Construction started between Sep 71 and . Jan 72.
9	Coke By-products Section U/C			First observed under construction in Sep 71.
10	Coal Processing Facility			Constructed between Nov 66 and Sep 71.
11	Ore Processing Facility			Constructed between Nov 66 and Sep 71.
12	Pig Iron Casting Building			First observed under construction in Dec 70. Complete by Sep 71.
13	Blast Furnaces (4)			Small. First observed under construction in Oct 63. Complete by Sep 71.

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